

OBJECTIVES: To examine incidence, prevalence and mortality rates among opioid-dependent patients in the U.S. Medicare population. **METHODS:** A study was performed for the period from January 1, 2008 through December 31, 2012 to determine the prevalence, incidence and mortality rates among opioid-dependent patients (International Classification of Diseases, 9th Revision, Clinical Modification diagnosis codes 304.0x and 304.7x) in the U.S. Medicare population. Patients who had continuous fee-for-service Medicare health plan enrollment for the calendar year and at least 2 years prior were selected for the study. Age- and gender-adjusted opioid dependence prevalence and incidence rates were calculated via direct standardization to the U.S. population age ≥ 65 years in 2010 using gender-specific age groups. **RESULTS:** The annual adjusted prevalence of opioid-dependent patients increased from 0.06% in 2008 to 0.35% in 2012. Incidence rates increased from 0.06% in 2008 to 0.10% in 2012. Prevalence rates were higher among women than men every year during the study period. Patients age 65–69 years had the highest prevalence rates during 2008 (0.09%), 2009 (0.16%), 2010 (0.22%) and 2011 (0.32%). However, in 2012, patients who were age 70–74 years had the highest prevalence rates (0.43%). North American Natives had the highest prevalence of opioid dependence compared to all other races. The highest incidence of opioid dependence was observed in Nevada in 2008 (221.9 per 100,000 person-years) and 2012 (222.1 per 100,000 person-years). The 30-day and 1-year mortality rates decreased by 10.5% (3.8 to 3.4 per 1,000 person-years) and 25.4% (17.3 to 12.9 per 1,000 person-years), respectively, from 2008 to 2012. **CONCLUSIONS:** Opioid dependence incidence and prevalence decreased from 2008 to 2012; however, opioid dependence-related mortality rates increased.

PMH14 PREVALENCE, AWARENESS AND BURDEN OF MAJOR DEPRESSIVE DISORDER IN URBAN CHINA

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OBJECTIVES: Given the lack of research on this in China, treatment guidelines for major depressive disorder (MDD) have been adapted based on Western guidelines. This study assessed health outcomes of MDD-diagnosed and MDD-undiagnosed vs. non-depressed respondents in urban China. **METHODS:** Data were obtained from the 2012 China National Health and Wellness Survey, a mixed-methodology, internet-based, nationwide survey of adults (18+ years) stratified by gender and age to represent the demographic composition of urban China. Respondents self-reporting physician diagnosis of depression and screening positive for MDD based on Patient Health Questionnaire-9 (PHQ-9) scores ($n=97$), plus those screening positive for MDD but undiagnosed and not experiencing depression ($n=1,005$) were compared with non-depressed respondents ($n=17,022$). Undiagnosed respondents were further compared across MDD severity levels (moderate, moderately severe, severe). Outcomes included: SF-36v2-based mental (MCS) and physical (PCS) component summary scores and SF-6D health utilities; Work Productivity and Activity Impairment questionnaire-based metrics; and resource utilization (past six months). Regression models assessed health outcomes as a function of MDD, controlling for demographics and comorbidities. **RESULTS:** MDD prevalence was 6.0%, with 8.3% of MDD-screened respondents diagnosed with depression, among whom 51.5% currently used prescription medication for depression. After adjustment, diagnosed and undiagnosed MDD respondents had lower health utilities and PCS and MCS (diagnosed-MDD: 32.8; undiagnosed-MDD: 37.1; non-depressed: 46.9) scores, plus greater absenteeism, presenteeism, overall work impairment (diagnosed-MDD: 47.1%; undiagnosed-MDD: 46.4%; non-depressed: 23.0%), activity impairment, emergency room visits (diagnosed-MDD: 0.95; undiagnosed-MDD: 0.72; non-depressed: 0.32), hospitalizations, and traditional provider visits, compared with non-depressed respondents, all $p<0.01$. Severe vs. moderate undiagnosed-MDD respondents had lower MCS and PCS and 1.4 times as many provider visits (all $p<0.05$). **CONCLUSIONS:** Over 90% of MDD-screened respondents were undiagnosed. MDD sufferers in urban China may be under-diagnosed and undertreated. Awareness and better access to treatments may help alleviate the burden associated with MDD.

PMH15 PREVALENCE AND INCIDENCE RATES AMONG ALCOHOL-DEPENDENT PATIENTS IN THE U.S. MEDICARE POPULATION

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OBJECTIVES: To examine incidence and prevalence rates among alcohol-dependent patients in the U.S. Medicare population. **METHODS:** A prospective study was performed from 01/JAN/2008 through 31/DEC/2012 to determine the prevalence and incidence of patients diagnosed with alcohol dependence (International Classification of Diseases, 9th Revision, Clinical Modification diagnosis code 303) in the U.S. Medicare population. Patients were required to have continuous enrollment in a fee-for-service Medicare health plan during the calendar year and at least 2 years prior. The age- and gender-adjusted prevalence and incidence (overall and age- and gender-specific) rates of alcohol-dependent patients were calculated by direct standardization to the U.S. population age ≥ 65 years in 2010. **RESULTS:** The annual adjusted overall prevalence rate increased from 0.30% in 2008 to 1.05% in 2012, whereas the annual overall incidence rate decreased from 0.30% in 2008 to 0.20% in 2012. Alcohol dependence prevalence and incidence rates were higher among men than women every year. Patients age 65–69 years had the highest prevalence rates during 2008 (0.43%) and 2009 (0.63%), whereas in 2010 (0.82%), 2011 (1.14%) and 2012 (1.43%), patients age 70–74 years had the highest prevalence rates. Prevalence rates grew steadily among all age groups from 2008 to 2012. The highest alcohol dependence incidence rate was observed in the Virgin Islands (917.6 per 100,000 person-years) in 2008, whereas in 2012, Wyoming (409.3 per 100,000 person-years) had the highest incidence rate. **CONCLUSIONS:** Increasing prevalence and decreasing

incidence of alcohol dependence was observed from 2008 to 2012. In addition, men were more likely to have alcohol dependence than women.

PMH16 TRENDS IN THE PREVALENCE OF DEMENTIA AMONG THE MEDICARE BENEFICIARIES: 2001-2010

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OBJECTIVES: Estimating the trends in the prevalence of dementia has been a challenge because it has been relying on self-reported information in the national representative surveys or based on diagnosis alone in community-based studies. With the aging of population, it is still unclear if there were any time trends in the prevalence of dementia. The objective of this study is to investigate the national trends in the prevalence of dementia using combined sources of information. **METHODS:** A trend analysis was performed using data from the Medicare Current Beneficiary Survey (MCBS) 2001-2010. The study sample consisted of Medicare beneficiaries aged 65 or older. Dementia was determined based on the self-reported diagnosis, or having diagnosis codes in Medicare claims, or utilization of dementia-targeted prescription medications identified in self/proxy's report. Cross-sectional weights were used to adjust for the complex survey design of MCBS. **RESULTS:** The prevalence of dementia increased approximately 20% from 8.3% in 2001 to 10.4% in 2010 ($p<.001$). This increasing time trends were largely explained by the increase in the prevalence of dementia in the community setting. The prevalence remained stable in the long-term care facilities, but increased from 4.8% to 7.3% in the community settings over time. We also observed the increase in the prevalence of dementia across age, sex and race groups. The prevalence of dementia was lower among Medicare beneficiaries aged 65–75 years vs. 75 years and older, among whites vs. blacks and Hispanics, and in women vs. men. **CONCLUSIONS:** Our findings suggested the increase in the prevalence of dementia existing among elderly from 2001 to 2010.

PMH17 SOCIO-ECONOMIC FACTORS ASSOCIATED WITH PRE-NATAL ALCOHOL INGESTION IN COASTAL GHANA: A CROSS-SECTIONAL STUDY IN 2014

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OBJECTIVES: Prenatal alcohol ingestion predisposes fetus to long term neuro-developmental defects, yet limited studies have been done to assess its prevalence in Ghana. This study determined the prevalence and factors associated with the practice in the coastal town of Accra. **METHODS:** A cross sectional analytic study was conducted. Two hundred and forty nine pregnant women were randomly sampled in James town Accra. Structured questionnaires administered to participants. Information gathered include prenatal alcohol consumption status, socio-economic status, knowledge on effects of prenatal alcohol ingestion, types of alcoholic beverages ingested and reasons for ingestion. Data was managed in EPI INFO 7, using prevalence Odds Ratio to estimate association between variables. **RESULTS:** Prevalence of Prenatal alcohol consumption was 47.4 percent. The age ranged 18–48 with mean, median and modal ages as 25.7 \pm 6.7, 25 and 18 years respectively. Among prenatal alcohol consumers, age ranged 18–48; mean, median and mode were 25.9 \pm 6.6, 25 and 18 years respectively. The monthly income among respondents ranged GHS 0.00–2000 (USD 0.00–625) with 120.00 (USD 37.50) as median income and modal monthly income 0.00 (USD 0.00). The types of alcoholic beverages ingested included Beer (58%), Pito (16.7%), and Gin (10.8%). Bivariate analysis showed that participants who belong to religious group other than Christianity and Muslim (OR=10.9 CI 2.47–48.01), having less than Junior High School education (OR=2.07 CI 1.25–3.44) was associated with prenatal alcohol ingestion, however age (OR=1.08 CI 0.65–1.79), having spouse or not (OR=1.00), employment status (OR=1.68 CI 0.90–3.14) were not significantly associated with alcohol consumption. Reasons for pre-natal alcohol ingestions includes socialization or peer pressure (31.7 percent), as appetizer (19.2 percent), to relieve stress (12.5 percent) and for happiness (10.8 percent). **CONCLUSIONS:** Prevalence of prenatal alcohol ingestion is high and associated with inadequate information. It is imperative to develop health promotion strategy to address it.

PMH18 SOCIOECONOMIC STATUS AND DEPRESSION IN JAPAN

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OBJECTIVES: Depression is one of the most common mental disorders in the general population, and may be of particular importance in Japan, which has the 7th highest suicide rate globally. However, depressed patients are underdiagnosed and undertreated in the general population. We aimed to evaluate the prevalence of depression in the general Japanese population and the relationship of socioeconomic status (SES) factors with that disease. **METHODS:** This was a cross-sectional study. We used a population weighted random sample from a nationally representative panel of adults (≥ 20 years). A baseline questionnaire was used to capture demographic data, lifestyle habits, and SES parameters including family income, education level, and type of family. Depression was defined as a score of >9 on the Patient Health Questionnaire (PHQ-9). **RESULTS:** 3,722 people were included in this study (mean age, 52 years old (SD, 18); 1,758 (47.2%) men.) The prevalence of depression was 27.1% ($n=1,007$), among whom 55 (5.5%) were already diagnosed with depression and 605 (60%) was women. Using multivariate logistic regression, for men, the risk factors for depression included lower educational attainment (OR: 1.3), low family annual income ($< \$30,000$, OR: 2.3), and past history of depression (OR: 3.8). On the other hand, for women, they included obesity (BMI ≥ 25 kg/m², OR: 1.5) and past history of depression (OR: 5.4) and SES was not associated with depression. **CONCLUSIONS:** Depressive disorders are highly prevalent in the Japanese general population. SES including education level and family annual income are not associated with women depression but with men depression.

PMH19

REDUCTION IN ER VISITS OF ADHD PATIENTS: EFFECT OF LONG AND SHORT-ACTING STIMULANTS

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OBJECTIVES: Emergency room (ER) visits are perceived with the high costs and unpredictable outcomes. Although the association between Attention Deficit Hyperactivity Disorder (ADHD), stimulants and ER visits has been studied; difference between the types of stimulants in terms of risk of ER visits have not been studied. Our objective is to identify the difference between the effects of long acting and short acting stimulant use in ADHD on ER visits in 18 to 35 year old adults (n=636) in the year 2011. **METHODS:** This retrospective secondary data analysis used the Medical Expenditure Panel Survey (MEPS) data for the year 2011. Univariate and Multivariate logistic regression were used to evaluate risk factors influencing type of stimulant use on ER visits. Risk factor and stimulant interactions were also included. **RESULTS:** The risk of ER visits in long acting stimulant users, among the uninsured, on adjusting for race, marital and insurance status, is 14.25 times (p=0.001) the risk of ER visits in short acting stimulant users. If they are insured, the risk of ER visits in long acting stimulant users is 1.83 times the risk of ER visits in short acting stimulant users (p=0.26). **CONCLUSIONS:** Long-acting stimulants combined with lack of insurance is a risk factor for increased ER visits. Our results support Affordable Care Act's efforts for the requirements of expansion on coverage in mental disorders to reach better healthcare outcome.

MENTAL HEALTH – Cost Studies

PMH20

REAL-WORLD BUDGET IMPACT ANALYSIS OF ATYPICAL LONG-ACTING ANTI-PSYCHOTICS IN FINLAND

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OBJECTIVES: The long-acting injectable aripiprazole once-monthly 400 mg (AOM 400) has been approved for treatment of schizophrenia in Finland since November 2013. Other atypical anti-psychotics, risperidone, paliperidone and olanzapine are also available as long-acting injectable formulations. A mixed treatment comparison has demonstrated that AOM 400 is at least as efficacious as other atypical long-acting anti-psychotics (ALAI). However, cost of administration and drug (treatment cost) vary among the ALAIs. This analysis aims to investigate the total treatment costs of ALAIs using real-world data in Finland. **METHODS:** A one-year time horizon budget impact analysis was conducted to compare the treatment costs of ALAIs in Finland. The real-world doses were calculated using sales data. One of the ALAIs (olanzapine) can be given in intervals of 2 or 4 weeks using the 300 mg strength. Half of the patients were assumed treated with the 300 mg dose every 2 weeks, the other half every 4 weeks. Prices for ALAIs were obtained from the official national price list. The cost of administration for AOM 400, paliperidone-LAI and risperidone-LAI was based on the cost of a short nurse visit (30 minutes) to a psychiatry outpatient clinic. The cost of administration of olanzapine-LAI was based on the cost of a longer visit (120-180 minutes), as the product information recommends monitoring for three hours after injection. **RESULTS:** The expected cost for drug and administration per patient, per year, for AOM 400 is 5158 EUR. The expected yearly costs per patient for drug and administration for paliperidone-LAI, risperidone-LAI and olanzapine-LAI are 6021 EUR, 6706 EUR and 11646 EUR respectively. **CONCLUSIONS:** In a budget impact analysis, using the method, data and assumptions described, AOM 400 is expected to be cost saving, in the real-world setting, in terms of cost of drug and administration, compared to other ALAIs available in Finland.

PMH21

COMPARING THE HEALTHCARE UTILIZATION AND COSTS OF EARLY- AND LATE-STAGE ALZHEIMER'S DISEASE PATIENTS RESIDING IN LONG-TERM CARE FACILITIES

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OBJECTIVES: To compare healthcare utilization and costs between early- and late-stage Alzheimer's disease (AD) patients residing in long-term care (LTC) facilities. **METHODS:** Patients diagnosed with AD (International Classification of Diseases, 9th Revision, Clinical Modification [ICD-9-CM] code 331.0) were identified using U.S. Medicare claims linked with the Long-Term Care Minimum Data Set (MDS) from 01JULY2008 through 31DEC2010. The first diagnosis date was designated as the index date. Patients were required to be age ≥65 years, with continuous medical and pharmacy benefits for 6 months pre- and post-index date, and reside in an LTC facility. Patients were categorized as early- or late-stage. Late-stage AD was defined by a cognitive performance scale score ≥5 (range 0-6) and Activities of Daily Living short-form activities score ≥10 points. Patients with and without AD were matched based on demographic and clinical characteristics, and 1:1 propensity score matching was used to compare follow-up all-cause and AD-related healthcare costs and utilizations. **RESULTS:** Before matching, late-stage AD patients (n=5,323) were less likely to be white (83.0% vs. 86.4%), male (16.4% vs. 21.7%) and have comorbid conditions measured by the Charlson Comorbidity Index score (3.55 vs. 4.83, p<0.001) than early-stage AD patients (n=20,023). After 1:1 matching, 3,804 patients were matched from each cohort and baseline characteristics were balanced. Fewer late-stage AD patients had skilled nursing facility admissions (25.3% vs. 29.8%, p<0.0001), but more had hospice admissions (17.8% vs. 7.3%, p<0.0001) and pharmacy visits (85.8% vs. 81.9%, p<0.0001) than early-stage AD patients. There were no significant differences in total all-cause healthcare costs; however, late-stage AD patients incurred significantly higher disease-related total (\$14,739 vs. \$13,673, p=0.0242) and hospice costs (\$4,157 vs. \$1,553, p<0.0001) compared to early-stage AD patients. **CONCLUSIONS:**

Patients with late-stage AD incurred higher disease-related costs than those with early-stage AD; however, there were no significant differences in total all-cause healthcare costs.

PMH22

COMPARATIVE ANALYSIS OF PRESCRIPTION UTILIZATION AND COSTS OF LURASIDONE AND ARIPIPRAZOLE: A PHARMACY-DATABASE STUDY

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OBJECTIVES: Pharmacy databases can yield important information about drug utilization and costs. This study sought to examine changes in prescription utilization and costs among atypical antipsychotic (AAP) subjects initiating lurasidone or aripiprazole therapy. **METHODS:** Adults filling lurasidone or aripiprazole prescriptions from 2/3/2011–6/30/2013 were identified in the Walgreens pharmacy-database. Treatment-naïve monotherapy subjects (no AAP prescriptions before-and-after index prescription) with ≥12-months pre-/post-index continuous enrollment were eligible. Lurasidone subjects were compared to a 1:1 matched random sample of aripiprazole subjects. Baseline demographics and health-insurance status were compared between cohorts. Mental-health prescriptions (anxiety agents, antidepressants, antipsychotics, psychotherapeutic, and neurologic agents) were identified using Generic Product Identifier for the National Drug Code numbers on pharmacy claims. Differences in mean changes (post-pre) in all-cause prescription fills all-cause prescription costs, mental-health prescription fills and mental-health costs were compared using t-tests. **RESULTS:** Each cohort included 4,595 subjects (lurasidone vs aripiprazole: 69.3% vs 72.2% female, mean ages 41.0 vs 43.4 years). Most subjects were commercially-insured (39.9% vs 48.6%), followed by State-Medicaid (24.4% vs 18.7%), Medicare-Part-D (22.8% vs 18.7%), and Managed-Medicaid (6.8% vs 5.6%). Lurasidone subjects had lower 30-day equivalent co-pays (\$42.02 vs \$56.63). Subjects were more likely to be prescribed lurasidone by psychiatrists (78.0% vs 57.3%) and less likely by general-practitioners (3.1% vs 23.0%). Overall, lower mean increases in all-cause prescription fills (11.3 vs 12.3; p=.09) and mental-health prescription fills (7.2 vs 8.0; p<.01) were observed for lurasidone than aripiprazole subjects. Additionally, mean differences in all-cause prescription costs (\$2,388 vs \$3,080; p<.01) and mental-health prescription costs (\$2,123 vs \$2,810; p<.01) were lower for lurasidone than aripiprazole subjects. Similar patterns of mean changes in prescription utilization and costs were found in commercial, Medicaid and Medicare subjects. **CONCLUSIONS:** In this national-US pharmacy-database analysis comparing subjects initiating branded AAPs, lurasidone subjects had fewer mean changes in all-cause and mental-health prescriptions and lower mean increases in associated costs than aripiprazole subjects.

PMH23

COST OF CARE OF AGITATION AND AGGRESSION ASSOCIATED TO DEMENTIA IN 8 EUROPEAN COUNTRIES: RESULTS FROM THE RIGHT TIME PLACE CARE (RTPC) STUDY

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OBJECTIVES: Dementia is associated with high costs of national healthcare in European countries. Disruptive neuropsychiatric symptom (NPS) such as agitation and aggression (A/A), increase caregiver burden, lead to premature institutionalization and death, and increase dementia costs. The aim of this study is to estimate the incremental societal costs for Patients with Dementia (PwD) with A/A in both Community-Dwelling (CD) and long-term care (LTC) settings in 8 European countries. **METHODS:** This study uses data from the RightTimePlaceCare (RTPC) European project. Interviews using structured questionnaires are conducted with 2014 PwD and their primary informal caregivers. Direct and informal costs are estimated from a societal perspective. Resource utilization is assessed with the resource utilization in dementia instrument. Resource consumption is valued using unit costs for each country, the replacement cost approach (informal care) and retail prices (medication). To estimate incremental costs of A/A, costs for PwD with A/A are compared to costs for PwD without A/A in both settings. Special emphasis is placed on the main predictors of costs. **RESULTS:** 2002 patients completed agitation item into the NeuroPsychiatric Inventory-Questionnaire at baseline (i.e. 1219 CD and 883 LTC). For CD patients with A/A societal costs are 2,472€ for one month vs. 2,144€ for patient without A/A (p=0.002). Incremental costs of A/A for CD patients are mainly due to informal costs and inpatient costs which are +174€ (p=0.015) and +113€ (p=0.048), respectively. For LTC patients with A/A societal costs are 4,730€ for one month vs. 4,166€ for patients without A/A (p=0.003). Incremental costs of A/A for LTC patients are mainly due to nursing home costs and outpatient costs which are +353€ (p=0.003) and +148€ (p=0.000), respectively. **CONCLUSIONS:** A/A in PwD living at home or in LTC setting increase societal costs by 15%.

PMH24

HEALTHCARE RESOURCE UTILIZATION AND COSTS ASSOCIATED WITH PALIPERIDONE PALMITATE VERSUS ORAL ATYPICAL ANTIPSYCHOTICS AMONG PATIENTS WITH SCHIZOAFFECTIVE DISORDER

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OBJECTIVES: Schizoaffective disorder, with both mood and psychotic symptoms, may necessitate different treatment than other schizophrenia subtypes. Long-acting injectable antipsychotics may reduce hospitalizations among schizophrenia patients but generalizability to schizoaffective disorder is unclear. This study com-